

**MONTGOMERY COUNTY GOVERNMENT
ROCKVILLE, MARYLAND
CLASS SPECIFICATION**

**Code No. 205003
Grade 16**

EMERGENCY VEHICLE MECHANIC TECHNICIAN I

DEFINITION OF CLASS:

This is intermediate (developmental) level, skilled work involving inspection, maintenance and repair of a wide variety of specialized light, medium and heavy duty mobile Fire and Rescue Service (FRS) equipment, such as (a) mobile structural firefighting apparatus (squads, pumpers, tankers and aerial equipment) and (b) mobile emergency medical services (EMS) equipment (such as ambulances, evacuation vehicles and mass casualty vehicles); in addition to maintenance/repair of these types of equipment, an employee in this class may maintain/repair specialized portable fire/rescue/EMS equipment. Primary business contacts are with employees in FRS (such as equipment maintenance personnel and supervisors in the shop, firefighters and EMS providers) to exchange routine information about equipment maintenance needs. This class may entail some public service/assistance, but it is incidental to the primary focus of the work performed.

An employee in this class, working under general supervision, determines causes of operating problems across a wide array of light, medium and heavy duty truck systems, subsystems and assemblies [such as but not limited to fuel systems, exhaust systems, clutches, starting and charging systems, steering systems, air and hydraulic braking systems, air and hydraulic antilock braking systems, heating, ventilation, air conditioning and refrigeration (HVAC-R) systems, and chassis, or subsystems or components thereof], and makes the needed repairs. Technical or non-technical training, guidance and diagnostic assistance (provided by the supervisor or a higher grade mechanic) are typically required in complex troubleshooting and repairs, and in diagnosis and repair of some fire/rescue/EMS specific systems, such as fire pump systems, water delivery systems, foam delivery systems, quint apparatus and aerial systems. The employee selects and safely uses proper steps and equipment consistent with technical and administrative guidelines, and efficient procedures and techniques, in making diagnoses and repairs. An employee in this class typically plans and lays out work and performs the successive steps involved in inspecting, maintaining and repairing FRS equipment (from troubleshooting and repair or replacement to certification of work performed) and handles problems or deviations in the work, using judgment that relies on experience and training, consistent with such guidelines as repair/service manuals, service bulletins, schematics, diagnostic data, industry standards, such as National Fire Protection Association (NFPA) standards (including NFPA 1071 and 1911), and unit SOPs. The employee selects and applies the appropriate guide(s) to specific situations to bring the non-conforming system, sub-system, assembly or part to the specified parameters by adjusting, repairing, replacing, etc. The employee performs recurring work assignments independently, but refers deviations to the supervisor for assistance. A supervisor, or higher grade worker, skilled in the work provides guidance, assistance or training on complex problems and typically reviews work upon completion to assure adherence to requirements. Work review, which may include review in progress, increases with complexity/newness. Complexity of the work is linked to troubleshooting equipment that includes hydraulic, pneumatic, mechanical, electrical and electronically- or computer-controlled utility systems, some of which operate in conjunction with, and are dependent upon, each other for proper functioning,

and to recurring assignments that do not require strong expertise in the full array of fire/rescue/EMS specific systems. An employee in this class may often be required to complete repair work started by another employee. In performing work in recurring assignments, an employee in this class maintains vehicles, equipment, and apparatus, and repairs defects or malfunctions, which are more readily diagnosed than on the most complex assignments. The impact of properly performed work is the provision of vehicles, which are both operationally safe and capable of performing in the manner for which they were designed. While positions of this class are non-supervisory, employees may provide on-the-job training and instruction to basic trainees. Work is performed in a centralized equipment maintenance facility (mainly), on the road, at fire/rescue/EMS scenes or wherever a break down occurs. Outdoors repair work may be performed in any weather. Work is performed in a centralized equipment maintenance facility, on the road, at fire/rescue/EMS scenes or wherever a break down occurs. Outdoors repair work may be performed in any weather. Employees work in tiring and uncomfortable positions for long periods, and must continuously bend, reach, stretch, lift, stoop, climb and crouch often on top of, in, and under vehicles and engines in cramped and awkward positions. Performance of the work of the class regularly involves exposure to loud noises, vibrations, dust, dirt and grease. Employees perform physically strenuous work while standing, lying down, or sitting; and push, lift and carry or move and position work objects weighing up to, or requiring force of, one hundred (100) pounds, and, occasionally, work objects/forces over one hundred (100) pounds; the employee obtains assistance or uses mechanical advantage, as appropriate. On a regularly recurring basis, work requires employees to move work objects and use tools near or immediately adjacent to energized equipment, which exposes employees to the potential adverse effects of compressed air, electrical current, belts, pulleys, fan blades and sharp edges. Additional hazards faced on a regularly recurring basis include spring-loaded parts, lifts and presses on wet/greasy floors, hot hydraulic fluids and oils, use of acetylene and oxygen cutting torches near flammable substances, battery acid and cleaning solvents, and working at heights of from ten to thirty feet above the ground or floor level. Performance of the work of the class may occasionally expose employees to human waste and/or body fluids, as may be found in ambulances. These hazardous working conditions require employees to maintain situational awareness, strictly follow safety rules and procedures and regularly use safety equipment, such as safety glasses, rubber or leather gloves, hearing protection, eye and face shield, respiratory mask, and steel-toe shoes. Despite these precautions, employees regularly receive cuts, burns, bruises and strains as well as eye, ear, nose, throat and skin irritations.

EXAMPLES OF DUTIES: (Illustrative Only)

- Performs preventive maintenance checks and services on equipment – checks tire wear, lubricates parts, replaces seals/wear rings, replaces filters, including high-efficiency particulate air (HEPA) filters in ambulance air filtration systems, etc.
- Diagnoses defects and causes of mechanical, hydraulic, electrical, electronic/computerized-based and other types of problems to determine type(s) and extent of repairs needed using diagnostic tools, manufacturers' repair/maintenance manuals, service bulletins, schematics and other guides, and experienced judgment.
- Maintains, tests and repairs, with assistance, specialized fire/rescue apparatus and medium-large fire/rescue/EMS equipment, such as fire pump systems, water delivery systems, foam delivery systems, quint apparatus, aerial ladder systems/devices, self-contained breathing apparatus (SCBA) mounting platforms and air fill stations.
- Connects, meshes, aligns, and adjusts items and systems to assure proper operation of the complete system or vehicle.

- Tears down and rebuilds components and assemblies of gasoline and diesel powered vehicles by fitting and installing needed parts such as pistons, valves, bearings, gears, and cylinders to appropriate tolerances; makes changes or modifications in accordance with specifications and guidelines.
- Maintains, tests and repairs hand-held/small equipment and tools used in fire/rescue/EMS operations, such as fans, hydraulic tools, Hurst tools, chain saws and circular saws.
- Road/performance tests vehicles and equipment during and occasionally upon completion of maintenance and/or repair work.
- Maintains service records and records of time and materials used.
- Participates in training programs and instructs lesser skilled employees.
- Reads and interprets sketches, specifications, and service manuals, and keeps abreast of service bulletins and other developments affecting the trade and equipment serviced.
- Works in machine shop and rebuilds equipment, parts, and materials needed for repair work; and fabricates parts, hydraulic hoses, and tools when unavailable.
- Handles hazardous waste properly, maintains work area in a clean and orderly manner and performs various “shop-keeping” tasks.
- Requests parts and checks them for compliance with manufacturers' specifications.
- Responds to breakdowns in the field, including fire scenes, as needed, and may operate a tow truck.
- Performs related duties as required.

KNOWLEDGE, SKILLS AND ABILITIES:

- Knowledge of the mechanical makeup, operation, and working relationships of a variety of light-medium-heavy duty truck systems, assemblies and parts, including such major systems as diesel, multi-fuel, and gasoline engines; fuel systems; exhaust systems; clutches; starting and charging systems; steering systems; air and hydraulic braking systems; air and hydraulic antilock braking systems; HVAC-R systems; and chassis. Examples of application of this body of knowledge include skill in tracing and locating defects and causes of mechanical, electrical and electronic- and computer-control problems to determine type and extent of needed repairs using diagnostic tools, manufacturers' repair/maintenance manuals/bulletins, schematics and other guides; and skill in tearing down and rebuilding components and assemblies of gasoline and diesel powered vehicles by fitting and installing needed parts, such as pistons, valves, bearings, gears, and cylinders to appropriate tolerances.
- Knowledge, or the ability to acquire knowledge on-the-job, of the design of “made-to-order” fire/rescue apparatus and equipment, and how used and operated, to perform intermediate level mechanic functions and to build skills for diagnosing and repairing fire/rescue and EMS vehicles and equipment at the journey level.
- Knowledge of how computer, electrical, transistorized, and other non-mechanical systems tie in with and affect the operation of mechanical systems to perform diagnoses and other intermediate level functions.
- Knowledge of, or the ability to acquire knowledge on-the-job, of, the (a) equipment standards and (b) tools, equipment and diagnosis/test procedures and practices used in maintenance and repair of fire/rescue and EMS vehicles, apparatus and equipment (such as fire pump systems, water delivery systems, foam delivery systems, quint apparatus, aerial ladder systems/devices and crew compartments), as well as the maintenance, repair, fabrication and mounting of fire/rescue tools, equipment, hoses and appliances [such as self-contained breathing apparatus (SCBA) mounting

platforms and air fill stations] to perform intermediate level mechanic functions and to build knowledge and skills to perform journey level mechanic functions.

- Knowledge of the occupational hazards and safety precautions of the fire/rescue apparatus and equipment mechanic trade to work safely.
- Skill in problem solving to select, organize and logically process relevant information (verbal, numerical or abstract) to solve a problem. This includes the ability to recognize subtle aspects of problems and identify relevant information. Examples include skill in planning and laying out one's own work; in diagnosing complex mechanical, electrical and electronic malfunctions; in interpreting schematics; in learning technical and industry standards used to inspect, examine, and perform intermediate level work on specialized fire/rescue and EMS apparatus and equipment; and in using the hand and power tools and equipment of the fire/rescue/EMS equipment mechanic trade.
- Skill in oral communication to communicate effectively with business contacts.
- Skill in written communication to understand service manuals/bulletins, complete records of work performed, etc.
- Interpersonal skills to interact with others in a businesslike, customer service-oriented manner.
- Skill in working as a team member to provide excellent customer service.
- Ability to lift and move objects that weigh up to one hundred (100) pounds, and occasionally objects that weigh in excess of one hundred (100) pounds, obtaining assistance or using mechanical advantage, as appropriate.
- Ability to work overhead or in stretched, cramped, awkward, tiring, and uncomfortable positions.
- Ability to safely operate all fire/rescue apparatus and their respective components.
- Ability to use and wear personal protective clothing and equipment when exposed to dust, fumes, and other irritants to eyes, nose, ears, skin, and respiratory system.
- Ability to distinguish between color-coded objects, such as electrical wiring.
- Ability and willingness to provide emergency repair service on fire/rescue/EMS apparatus and equipment outside the regular shop location.

MINIMUM QUALIFICATIONS:

Experience: Two (2) years of verifiable, progressively responsible experience in the automotive-truck maintenance and repair trade, which included problem diagnosis.

Education: Completion of high school or a High School Certificate of completion recognized in the State of Maryland.

Equivalency: An equivalent combination of education and experience may be substituted.

License: At Time of Employment Application: Possession of a valid, current Class "C" or equivalent motor vehicle operator's license from the applicant's state of residence. **First Day of County**

Employment: Possession of *at least* a valid Instructional Permit for a Class "A" commercial driver's license (CDL) issued by the applicant's state of residence. **Upon Completion of Probationary Period:**

Possession of a Class "A" CDL issued by the employee's state of residence; US Environmental Protection Agency-approved certification (for refrigerant recovery appropriate to the equipment serviced/inspected); and a Maryland State Forklift Operator License. **Within Eighteen (18) Months from Date of Appointment/Placement:** Employees in this class must obtain and maintain a National Fire Protection Association (NFPA) Emergency Vehicle Technician (EVT) Level I certification, which includes successful completion of examinations in:

- T4 Medium-Heavy Truck, Brakes (National Institute for Automotive Service Excellence (ASE);
- T5 Medium-Heavy Truck, Suspension and Steering (ASE);
- T8 Medium-Heavy Preventive Maintenance Inspection (ASE);

- F1 Maintenance, Inspection and Testing of Fire Apparatus (EVT); and
- F2 Design and Performance Standards of Fire Apparatus (EVT).

Note: There will be no substitutions for this section.

PROBATIONARY PERIOD:

Individuals appointed to a non-bargaining unit position in this class will be required to serve a probationary period of six (6) months; or if promoted to a non-bargaining unit position in this class, serve a probationary period of six (6) months. Individuals appointed or promoted to a bargaining unit position in this class will be required to serve a probationary period of six (6) months. Performance will be carefully evaluated during the probationary period. Continuation in this class will be contingent upon successful completion of the probationary period.

MEDICAL EXAM PROTOCOL: Pre-placement Core II Exam.

Class Established: September 2015

Date Revised: February 2020

Revised: "Probational Period"